

ENGINES at the S.B.A.C. SHOW

Including Several Types to be Seen in Action at the R.A.F. Display

FREQUENT reference is made in the article "Equipment and Re-Equipment" on pp. 668-680 to the engines which power the machines under discussion. Additionally, a perusal of those notes, in conjunction with the following short review of the models to be shown in the S.B.A.C. "Static" section at Hatfield on Monday will form a useful guide to the power plants of the machines to be seen in the air both at Hatfield and at the R.A.F. Display.

ALVIS (Stand 1).—A licence to manufacture engines of the French Gnome Rhone series has been acquired by the Alvis Company, and production is already in progress at Coventry. The most notable engines concerned are of very high power, of the fourteen- and eighteen-cylinder two-row types.

The company has decided not to show any complete engines on this occasion, but may exhibit a few finished or partly finished parts. Makers: The Alvis Car and Engineering Co., Ltd., Coventry.

ARMSTRONG SIDDELEY (Stand 66).—The attractive installation which can be made with the Tiger IX engine is apparent on the new Whitley heavy bomber and the A.W.23 bomber transport. This is due to the general compactness of this unit (resulting from the 14-cylinder, two-row arrangement) and its small diameter. The Tiger IX, the largest Siddeley type at Hatfield, is geared, moderately supercharged, and adapted to drive a D.H. controllable-pitch airscrew. The rated power is 805 h.p. at 6,250ft., but for take-off at maximum permissible boost 880 h.p. is available.

The Cheetah IX, also on show, is a 7-cylinder type, un-gear, but moderately supercharged. At normal r.p.m. and 6,000ft. the rated power is 310 h.p. The take-off output is 340 h.p. Inspection will show that the cylinders are scaled-down versions of those of the Tiger IX. For economy of operation and simplification from the pilot's point of view a Claudel Hobson automatic mixture control is fitted.

Another 7-cylinder model, the Genet Major Ia, giving a maximum of 165 h.p., is also to be at Hatfield. Makers: Armstrong Siddeley Motors, Ltd., Coventry.

BRISTOL (Stand 71).—The profusion of Bristol engines in machines taking part in the R.A.F. Display and the flying

programme at Hatfield on Monday indicates the popularity of these units at the present time. An opportunity of examining four different types will be provided on the Bristol stand, the engines concerned being the Pegasus X and Mercury VIII poppet-valve types, and, in the sleeve-valve category, the Perseus and Aquila. Structural particulars of the sleeve-valve engines are not available.

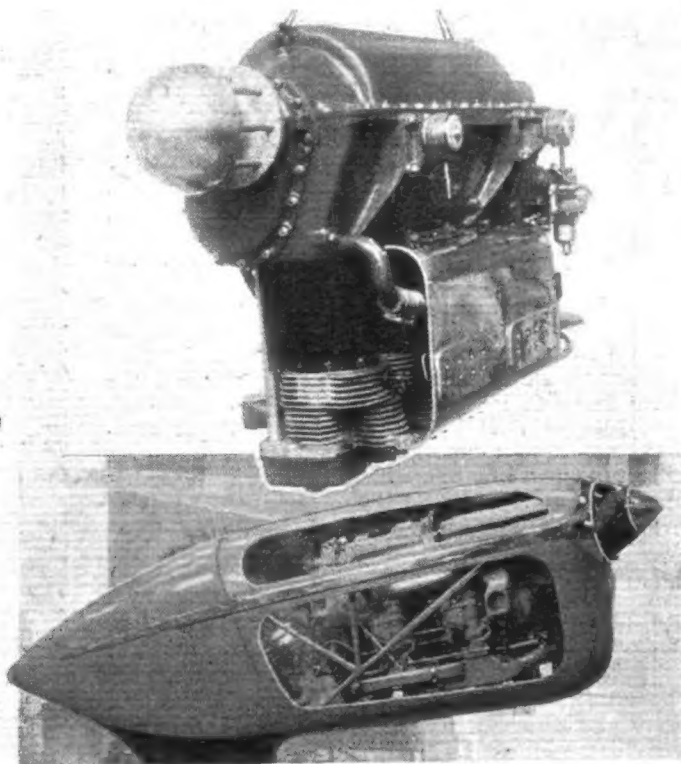
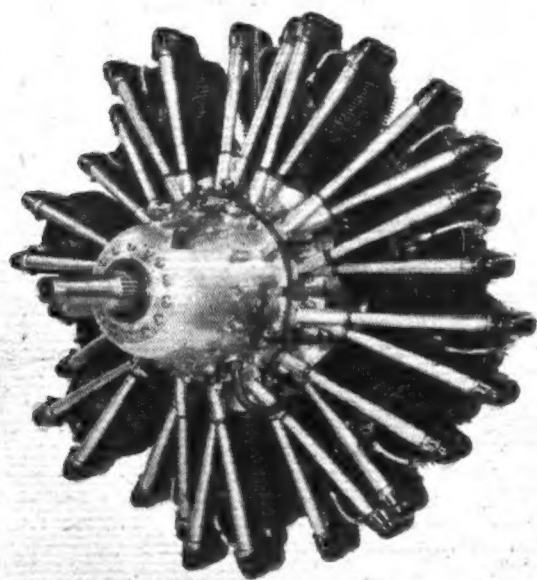
One particular attraction will be the new controllable cowl-ling to be seen on the Mercury VIII. This offers adequate cooling under all conditions of flight with very low drag. Provision for controllable-pitch airscrews will also be noted.

The new series of poppet-valve engines embody such refinements as a new design of cylinder head and hardened barrel with a substantial increase in cooling area; improved pistons and rings; sodium-cooled and stellite exhaust valves and stellite seats; improved supercharger and carburettor; and provision for auxiliary drives for a complete range of accessories. Makers: The Bristol Aeroplane Company, Ltd., Filton House, Bristol.

CIRRUS-HERMES (Stand 73).—A pair of 4-cylinder inverted in-line air-cooled engines will be on the Cirrus-Hermes stand. They are the 80-90 h.p. Cirrus Minor and the 132-145 h.p. Cirrus Major. It has lately been revealed that the Minor is being specified for six different types of light aircraft, and has been, or is being, fitted to three foreign light machines and one twin-engined type.

Incidentally, the "Major" to be shown is the future model of this engine particulars of which have not been generally released since the manufacturers are at the moment awaiting the result of the type test. Makers: Cirrus-Hermes Engineering Co., Ltd., Brough, Yorks.

DE HAVILLAND (Stand 70).—So far as this country is concerned there will be two real novelties in the De Havilland exhibit—the Series II version of the Gipsy Six and Gipsy Major engines developed specially for operation with De Havilland controllable-pitch airscrews, including the automatic constant-speed version. The Gipsy Six Series II is already becoming known as the power plant of one version of the D.H.86a, but the latest "Major" will be quite a novelty to the public. Both the new engines have a compression ratio of 6:1, and are rated for a higher continuous power output than their forerunners. Provision for an instrument pump is



Rated at 805 h.p. at 6,250 ft., the Siddeley Tiger IX (left) gives 880 h.p. for take-off. On the right are the 80/90 h.p. Cirrus Minor (top) and the D.H. Gipsy Six, the Series II version of which will be at Hatfield.